Listing of Claims:

1. (Currently Amended) An optoelectronic module, comprising:

a carrier element having electrical connection electrodes and electrical lines;

at least one semiconductor component for emitting or detecting electromagnetic radiation, said semiconductor component being applied on the carrier element and being electrically connected to connection electrodes of the carrier element and comprising a radiation coupling area;

at least one optical device assigned to the semiconductor component; and

a connecting layer made of a radiation-transmissive, deformable material arranged in a gap between the radiation coupling area of the semiconductor component and the optical device, the connecting layer being at least partly cured,

wherein the optical device and the semiconductor component are fixed relative to one another and pressed against one another, thereby squeezing ~~to squeeze~~ the at least partly cured connecting layer arranged therebetween, and

wherein the squeezed connecting layer~~, when squeezed, is configured to generate~~ generates an opposing force that strives to press the optical device and the radiation coupling area of the semiconductor component apart.

2. (Previously Presented) The optoelectronic module of claim 1, wherein the connecting layer has a thickness of at least 30 μm.

3. (Previously Presented) The optoelectronic module of claim 2, wherein the connecting layer has a thickness of greater than or equal to 150 μm and less than or equal to 350 μm.

4. (Previously Presented) The optoelectronic module of claim 1, wherein the connecting layer has a lacquer, preferably a circuit board lacquer, which is deformable in a cured state.

5. (Previously Presented) The optoelectronic module of claim 1 wherein a surface of the carrier element is at least partly coated for protection against external influences with a material that is also contained in the connecting layer.

6. (Previously Presented) The optoelectronic module of claim 1, wherein

a refractive index of the connecting layer is adapted to a refractive index of a material of the semiconductor component that adjoins the connecting layer and/or to a refractive index of a material of the optical device that adjoins the connecting layer.

7. (Previously Presented) The optoelectronic module of claim 1, wherein the optical device has refractive and/or reflective elements.

8. (Previously Presented) The optoelectronic module of claim 1, wherein the semiconductor component is a luminescence diode component.

9. (Previously Presented) The optoelectronic module of claim 1, wherein the semiconductor component is a surface-mountable component.

10. (Currently Amended) A method for producing an optoelectronic module comprising the steps of:

providing a carrier element having electrical connection electrodes and electrical lines;

providing a semiconductor component for emitting or detecting electromagnetic radiation, said semiconductor component having a radiation coupling area;

providing an optical device;

applying the semiconductor component on the carrier element and electrically connecting the semiconductor component to the connection electrodes;

mounting the optical device above the radiation coupling area of the semiconductor component; and

prior to mounting the optical device, ~~providing~~ applying a curable and, when in a cured state, a radiation-transmissive and deformable composition at least over the radiation coupling area of the semiconductor component,

wherein the applied composition is at least partly cured or let to be cured, and

wherein, after the composition is applied, the optical device and the semiconductor component are fixed relative to one another and pressed against one another, thereby squeezing ~~to squeeze~~ the at least partly cured composition disposed therebetween, and

wherein the squeezed applied composition~~, when squeezed,~~ generates an opposing force that strives to press the optical device and the radiation coupling area apart.

11. (Previously Presented) The method of claim 10, wherein the composition is applied in the form of a layer having a thickness of at least 30 μm.

12. (Previously Presented) The method of claim 11, wherein the composition is applied in the form of a layer having a thickness of greater than or equal to 150 μm and less than or equal to 350 μm.

13. (Previously Presented) The method of claim 10, wherein the composition has a lacquer, preferably a circuit board lacquer, which is deformable in a cured state.

14. (Previously Presented) The method of claim 10, wherein the composition is applied at least to a part of a surface of the carrier element for protection against external influences.

15. (Previously Presented) The method of claim 14, wherein the composition is applied to the radiation coupling area and to the surface of the carrier element in a single method step.

16. (Previously Presented) The optoelectronic module of claim 2, wherein the connecting layer has a thickness of at least 100 μm.

17. (Previously Presented) The method of claim 11, wherein the composition is applied in the form of a layer having a thickness of at least 100μm.

18. (New) The optoelectronic module of claim 1, wherein the connecting layer contacts both the radiation coupling area of the semiconductor component and the optical device.

19. (New) The method of claim 10, wherein the connecting layer contacts both the radiation coupling area of the semiconductor component and the optical device.